EFFECTIVENESS OF CARTOON ON PAINFUL PROCEDURES AMONG PRESCHOOLCHILDREN IN A SELECTED HOSPITAL, AT KANYAKUMARI DISTRICT

A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2017

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Internal Examiner **External Examiner**

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled **"A Study to assess the effectiveness of cartoon on painful procedures among preschool children in a selected hospital at kanyakumari district"** is the bonafide work done by **Miss.Sajina** II year M.sc Nursing SreeMookambika College of Nursing Kulasekharam, under the guidance of **Mrs. Dali Christabel, M.sc(N),** HOD of Child Health Nursing, in partial fulfillment of the requirement for the degree of Master of Science in Nursing under the Tamilnadu Dr. M.G.R. Medical University, Chennai.

Place: Kulasekharam

Date: 09-08-2017

Principal

SreeMookambika College of Nursing, Kulasekharam

DECLARATION

I hereby declare that the present dissertation titled **"A Study to assess the effectiveness of cartoon on painful procedures among preschool children in a selected hospital at kanyakumari district"** is the outcome of the original research work under taken by me under the guidance of **Mrs.Dali Christabel, M.sc(N),** HOD of Child Health Nursing, SreeMookambika College of Nursing, Kulasekharam. I also declare that the material of this has not formed anyway the basis for the awarded of any degree or diploma in this University or any Universities.

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ABSTRACT

Introduction

Children are major consumers of health care. Pain in children with acute and chronic diseases is a major public health problem that has been increasing over the last 20 years. Medical procedures, particularly needles, are among the most feared experiences of children. According to the Center for Disease Control, their immunization schedule recommends that young children ages birth to six years should receive as many as 31 vaccinations to prevent 11 diseases before entering kindergarten. Distraction out of other non-pharmacological interventions is the most commonly used method for procedural pain and distress. Effective distracters should have the capacity for refocusing the child's attention from the unpleasant details of the medical procedure to an enjoyable, engaging task. Of the distraction methods used during Preschool age, audio-visual distraction is the most effective. Audio-visual distraction like cartoon distraction is a simple, labor saving and easy to administer therapy that relieves pain and distress in children during painful procedures as equally and effectively as common psychological interventions. Cartoon distraction help nurses to solve the problem of lack of attention to pain relief, while saving nurses time and make it possible for them to pay more attention to their jobs.

Objective

The overall objective of the study was to assess the effectiveness of cartoon on painful procedures among preschool children by comparing the post test levels of pain scores.

Methodology

The design used in this study was post test only control group design The investigator selected 40 samples by using convenient sampling method.

The investigator used Demographic variables and Wong- Baker Faces pain rating scale. A pilot study was conducted with 6 samples. Pilot study findings revealed that the study was feasible and the tool was appropriate for the study. The main study was conducted on 40 samples. The collected data is planned to be analyzed using descriptive and inferential statistical analysis.

Findings of the Stud

The study revealed that there was a significantly high reduction in level of pain among experimental group with mean pain score was 5.45 1.7(SD) where as mean pain score among control group was 7.91.4 (SD) with mean difference of 2.45. The‘t’ value for assessing the effectiveness of cartoon is 4.814, which is significance at the level of $P<0.05$.

In this study there is an association was found between the level of pain and selected demographic variable such as mother‘s occupation and no association with age, sex, orders of birth, type of family, body built of subject, educational status of mother, child accompanies with, previous experience of pain and type of admission**.**

Conclusion

Cartoon found to be an effective nursing intervention in reducing the level of pain among preschool children with invasive procedure.

CHAPTER I

INTRODUCTION

“The aim of the wise is to not to secure pleasure but to avoid pain”

-Aristotle

“To truly laugh you must be able to take your pain and play with it”

-Charlie Chaplin

Children are the future of our society and special gifts to the world. Children need accessible, continuous, comprehensive, coordinated and compassionate care that focuses on their changing physical and emotional needs (Kyle T 2008). Worldwide, children represent a higher proportion of the population, with children younger than age 15 accounting for 1.8 billion (28%) of the world’s 6.4 billion persons (Kliegman et al, 2007). Children are the one who are very vital for deciding how the world is going to be after some years , so if one can do some good in the life of a child, then there can be a change. As said by Karl Meninger” What is done to children, they will do to the society’’ Children are the wealth of tomorrow. Good health of these precious members of the society should be ensured as prime importance in all countries.

Children are major consumers of health care. In India, about 35 percent of total population is children below 15 years of age. They are not only large in number but also vulnerable to various health problems and considered as special risk group.Children always need that special care to survive and thrive. A child is unique

individual; he or she is not a miniature adult, not a little man or women. The childhood period is vital because of socialization process by the transmission of attitude, customs and behavior through the influence of the family and community. Family's culture and religious belief, educational level and ways of living influence the promotion and maintenance of child health.

Children are vulnerable to disease, death and disability owing to their age, sex, place of living, socioeconomic status, and a host of other variables. They need appropriate care for survival and healthy development. During the1920-1970 period it was found that children were traumatized by their hospital experience. A study of this period showed that children who are sick need comfort and care and they have emotional, psychological and social needs to meet.

There is growing recognition of the importance of the early years such as preschool years. During the preschool years it is very important that children have a quality childcare and hospital experience that addresses their developmental needs. Research shows that children who attend quality early childcare and hospital experience will benefit through improved cognitive (thinking, reasoning), language and social development. Quality care can help to protect preschool children from the adverse effects of living in at-risk families or disadvantaged homes so these children can benefit even more. Barnardos has been actively lobbying for the introduction of pain free, quality childcare places for all children for one year prior to starting primary school. Neuroscience and psychological research have demonstrated that a significant amount of children's learning takes place in the first six years of life.

It is important for parents and others who work and live with preschool children to keep in mind the broad range of kinds of experiences that are important in

the early years. Children's experiences during these formative years shape them well. Supporting and nurturing children's early life is critical if they are to avail of the tremendous opportunities early childhood can offer in realizing their individual potential. It's important to remember that development is not a race. What is most important is tuning into your child's individual path, building on his or her strengths, and providing him or her with support when needed. Development happens within loving relationships, ones in which babies, toddlers and preschoolers can be supported to safely and comfortably explore, learn and grow.

The Pre-School Regulations now cover very important areas such as the health, welfare and development of the child as well as behavior, child/adult ratios, premises and facilities, floor space, heating and ventilation, sanitation, food, safety measures, facilities for rest, and play and insurance. Child protection is covered under Regulation 9 of the Pre-School Regulations, which requires that 'within the framework of Children First National Guidelines for the Protection and Welfare of Children, a clear written guideline on identifying and reporting child abuse should be developed by the pre-school service.' In line with Article 2.2 of the UN Convention on the Rights of the Child: All childcare services and providers should consider children's welfare to be of paramount concern. All children should be respected and treated with dignity at all times. Children's rights should be acknowledged and respected at all times. Children should never be subjected to any degrading or abusive behavior. Good childcare encourages babies and young children to develop and learn. It helps them to share, make friends, and find out new things for themselves – and therefore have a happy experience. However if hospital experience of a preschool child need to be happy, it should be pain free.

Pain is a complex, multidimensional and subjective experience that consists of physiological, sensory, emotional, cognitive and behavioral components.The International Association for study of Pain (IASP) defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage". (Klossne J N, et al., 2010). Pain is an important clinical problem that, if persists, can slow down the healing process. The relief of pain or distress during health related procedures is a basic human right. In recent years, there has been an increasing emphasis on measuring and tracking adverse effects from painful procedures.. The Child Friendly Healthcare Initiative developed by Child Advocacy International in the UK and endorsed by WHO and UNICEF, has recommended the development of Standards and guidelines for the assessment of pain and discomfort, and that invasive procedures. In a hospital setting, children often experience unpredictable and severe procedure-related pain that can be associated with negative emotional and psychological implications.

Medical procedures are procedures carried out commonly in health care settings today, as a means of providing diagnostic information, treatment, or palliation according to child's condition. But unfortunately, many of which produce pain. Any procedure causes actual or potential tissue damage has the potential to cause pain. Therefore, potentially painful procedures can range from simple procedures, such as venepuncture to more invasive procedures, such as lumbar punctures and can occur in a variety of settings in the hospital. Regardless of the procedure or setting, if pain is not anticipated and prevented or treated appropriately, patients may experience numerous harmful effects and pain levels may be higher with subsequent procedures. Bijttebier and Vertommen found that negative medical experiences showed higher

levels of anxiety before a venepuncture procedure and were more distressed and less cooperative during procedure.

Pain in children with acute and chronic diseases is a major public health problem that has been increasing over the last 20 years. In 1995 the American pain society challenged all health care system, to make pain the fifth vital sign along with pulse, temperature, blood pressure and respiration. In addition to the pain associated with medical procedures, they are often a source of anxiety, fear, and behavioral distress for children and their families, which can further intensify their pain and interfere with the procedure. Pain experiences can have permanent changes in the nervous system that will affect future pain experience and development. A traumatic care has been identified as a philosophy for providing healthcare through interventions that eliminate or minimize the psychological and physical pain and distress experienced by children and families. The pediatric healthcare community is committed ethically and morally to cause no harm to their patients

An international study conducted by Ann Marie McCarthy and et al with 542 children reveals that about 60%children responded 0 to 3 range which was low level of pain and about 20% reported 4 to6 range which was moderate level and the rest of the 20 % reported 7 to 10 range and that was high level of pain.

Another study conducted by Anurani A. Augustine with 80 children in Mangalore, Karnataka, India reveals that the average pain score of children who received invasive procedures is 8.15which is severe pain level. Also a study conducted in Mumbai, Maharashtra in India with 50 Outpatient children who received Intra muscular injections shows that 39 (78%) subjects' responses moderate pain followed by 11 (22%) subjects' responses severe pain.

Medical procedures, particularly needles, are among the most feared experiences of children. Reports from children, parents and nurses consistently indicate that many children do indeed fear the "pain." Estimates say that the percentage of pain is 50-80% of all hospitalized children. The data summary for 1992 to 2004 from the American Pain Society reveals 70% of hospitalized children reported pain, almost 20% reported moderate pain and 10% reported extremely severe pain.

More than half of preschool children experience fear and anxiety before a needle or vaccination. Medical procedures are among the most feared of all childhood experiences. Needle procedures are the most common and feared type of iatrogenic medical pain. (Broome et al, 1990). Immunizations are the most common recurring health procedure in childhood (Taddio et al 2009). Up to 25% of adults have a fear of needles that developed in childhood. 10% of population avoids needle procedures because of needle phobia, and 2/3rds of those people are less likely to vaccinate their own children (Wright et al, 2009). Needle sticks are a necessary part of medical procedures and treatment. Of the 12 billion injections given annually, approximately 5% of those injections are childhood vaccinations. Routine childhood immunizations are the most frequent and painful medical procedure for young children (Taddio, Halperin, Rieder, & Shah, 2009).

According to the Center for Disease Control, their immunization schedule recommends that young children ages birth to six years should receive as many as 31 vaccinations to prevent 11 diseases before entering kindergarten (Department of Health and Human Services, 2010). While the young child's fears change with age, these fears are very real in the minds of these children. Children show a commonality in fears at certain ages, and a 1990 study conducted by Burke showed that fear of medical procedures was one of the five most reported, common fears among children.

Additionally, the article acknowledged that in a 1994 study, two very real and common hospital-related fears within school-aged children were receiving a shot and receiving a finger stick (Nicastro & Whetsell, 1999). Needless to say, the question most frequently asked by children upon entering a doctor's office is:"Am I going to get s shot?"(Taddio et al. 2009).

According to guidelines published by the United States Centers for Disease Control and Prevention in 2005, children are to receive roughly 29 intramuscular injections by six years of age. These events are anxiety provoking and painful, especially for preschool children, who exhibit higher distress than older children. It was also reported that as many as 45% of three- to six-year-old children experience 'serious or severe distress' during these procedures. In many cases, procedure related distress is so severe that it results in escape behavior (e.g., kicking) and a need for child restraint.

Pain and distress can be managed by using both pharmacological and non-pharmacological method. To ensure adequate pain and distress relief and to give the children a sense of control over the situation, non-pharmacological methods are widely accepted as additional strategies that may be used independently or in addition to pharmacological methods.

Distraction out of other non-pharmacological interventions is the most commonly used method for procedural pain and distress. Distraction is a non-pharmacological intervention that diverts attention from a noxious stimulus through passively redirecting the subject's attention or by actively involving the subject in the performance of diversion task. Distraction method includes audiovisual distraction (Watching TV, video games, cartoons), vocal distraction (listening to music), touch-

motion distraction (slow regular breathing), and purposive distraction (using toys). Other interventions include relaxation, hypnosis, modeling, desensitization, contingency management, selective attention, stress inoculation, cognitive restructuring, and coping skills training. When an individual is distracted, regional cerebral blood flow associated with processing a painful event is reportedly reduced. Likewise, when an individual's attention is occupied by a distracting task, activation is reduced to the areas of the brain associated with pain such as the thalamus, insula, and the anterior cingulated cortex producing correspondingly lower pain scores. The use of intervention through distraction before and during a medical procedure is being recognized as an effective means of reducing pain and fear in children.

Distraction is defined as concentrating on an activity to prevent attention from focusing elsewhere, thereby, increasing the tolerance for pain by putting pain at the periphery of awareness (Sparks, 2001).While the use of distraction is emerging in the pediatric medical setting, there has been little research conducted concerning the effects of child life-directed distraction.

Effective distracters should have the capacity for refocusing the child's attention from the unpleasant details of the medical procedure to an enjoyable, engaging task (Devine et al., 2004). It is believed that the more actively engaging and varied the distracter, the more effectively it will interfere with perception of pain (Duff, 2003; Dahlquist, Busby, et al., 2002; McCaul & Malott, 1984). Distraction is hypothesized to be an effective strategy for decreasing procedural pain, fear, and distress by reducing the sensory and affective components of pain and the diversional capacity left to process that pain (Vessey,Carlson, & McGill, 1994). In addition, distraction also may be a vehicle to modify how painful stimuli are processed (Piira, Hayes, & Goodenough, 2002). (Petrovic, Petersson, Ghatan, Stone-Elander, & Ingvar,

2000 (Bantick et al., 2002).McCaul and Malott hypothesized that the brain has a limited capacity to focus attention on stimuli. Therefore, using up attention resources while engaging in a distracting task leaves little capacity for attending to painful stimuli.

Of the distraction methods used during Preschool age, audio-visual distraction is the most effective. Audio-visual distraction like cartoon distraction is a simple, labor saving and easy to administer therapy that relieves pain and distress in children during painful procedures as equally and effectively as common psychological interventions. Cohen et al examined cartoon movies as a distracter for preschool immunizations. The result of the study indicates that children who were distracted by a cartoon movie displayed less distress and more coping behavior than children in controlled environment.

Carton distraction works on principle of ACCEPTS, these are distract with **activities** i.e. watching cartoon video, Distract with **contributing** i.e. cartoon video take the attention away from own pain and concentrate on concern for someone else, Distract with **comparisons** – cartoon video help to compare own situation with one that is much worse, Distract with opposite **emotions**– cartoon video helps to promote the complete opposite emotion i.e. help to laugh even if feeling very sad, Distract by **pushing away** i.e. cartoon video helps in pushing the stressful situation away, Distract by positive **thought** i.e. cartoon distraction direct concentration to other, more positive thoughts and Distract with other **sensations** i.e. cartoon distraction has the ability to jog emotions and break the connection between person and his/her emotional pain. Cartoon distraction help nurses to solve the problem of lack of attention to pain relief, while saving nurses time and make it possible for them to pay more attention to their jobs.

The goal of the present study was to develop a practical and cost effective means of reducing child pain and distress during painful procedures. The intervention consisted of distraction in the form of popular children's cartoon movie Angry Birds.

Need of the Study:

Children being cared for in hospital undergo numerous painful medical procedures; recent research found that 78% of hospitalized children had at least one painful procedure in the last 24 hours. Healthy children also experience numerous painful procedures as part of routine medical care. Nurses reported that pain signs in 50% of the inpatient hospitalized children which were detected during clinical procedures. Nurses reported that pain was managed in 78% inpatients by using pharmacological and non-pharmacological interventions. Researchers findings provide evidence of the high prevalence of pain in pediatric inpatients and the under recognition of pain by health professionals. Children often experience unpredictable and severe procedures related to pain in hospitals that can be associated with negative emotional and psychological implications. These medical procedures also induce anxiety, fear and behavioral distress in children and their families, further intensifying their pain and interfering with the procedures. Medical procedures, particularly needle insertions, are among the most feared experiences reported by children.

Painful medical procedures can cause short term and long term effects. These effects consist of a variety of physical, emotional, behavioral, cognitive and psychological manifestations, including fear, anxiety, anger, aggressive behavior, inability to concentrate, embarrassment, refusal to consent to further procedures and distrust of the health care team and may affect overall economic, social and spiritual well-being . Diversion therapy has been used successfully as an intervention to

decrease children's pain during painful procedures. Diversion therapy protocols differ in various ways, most notably in the attention required by the participant to engage in the distraction. Many studies have proved effectiveness of active distraction, based upon this the current study aimed to assess the effectiveness of active distraction, to increase children's pain tolerance during painful medical procedures and achieve children comfort as much as possible. The child who experiences pain in an unsecure environment (i.e., away from his or her family) can suffer from a lack of confidence and stress. If the child has experienced a prior painful event, exposure to a similar situation can lead to severe anxiety that even renders the application of topical analgesics ineffective in preventing fear of the pain. Thus, inadequate relief of pain and distress during painful childhood medical procedures may have long-term negative effects on future pain tolerance and pain responses.

PROBLEM STATEMENT

A study to assess the effectiveness of cartoon on painful procedures among preschool children in a selected hospital, K.K. district

OBJECTIVES

1. To assess the level of pain among preschool children during painful procedures in experiment and control group.

2. To assess the effectiveness of cartoon in reduction of pain among preschool children during painful procedures in experiment and control group.

3. To assess the association between the level of pain among preschool children and selected demographic variables.

HYPOTHESES

H_1

There is a significant difference in pain during painful procedures among preschool children in experimental group.

H_2

There is a significant association between the levels of pain during painful procedure among preschool children with selected demographic variables

VARIABLES

Independent variable

Cartoon

Dependent variable

Pain

Demographic variable

Age, Sex, order of birth, type of family, Body built, Educational status, Mother's occupation, Child accompanying with, Previous experience of pain and previous experience of pain.

Operational Definitions

Effectiveness

In this study effectiveness refers to the reduction in the level of pain during painful procedures among preschool children after showing cartoon. It was measured by Wong-Baker Faces pain rating scale.

Cartoon

In this study cartoon refers to the sensory visuals accompanied by audio that is shown to the preschool children during the time of painful procedures in order to take the attention of pain away. It was started 10 minutes prior to the procedure and ends after 15 minutes of completion of the procedure.

Pain

In this study pain refers to the highly unpleasant physical sensation caused during painful procedures, it should be measured by Wong-Baker Faces Pain Rating Scale .The pain score is 0 to 10.

Painful procedures

In this study painful procedures refers to the medical procedures that can cause pain to the preschool children .In this study painful procedures taken are Subcutaneous, Intramuscular, Intravenous injections, Intravenous cannulation and blood sample collection.

Preschool child

In this study preschool child refers to 3 to 5 years of children

Assumptions

1. Preschool children affect from pain during painful procedures.

2. Cartoon is effective in reducing pain during painful procedures among preschool children

Delimitation

The study is limited to the preschool children who came to the Sree Mookambika Medical college Hospital .

Ethical Considerations

The study was conducted after the approval of the research committee of the college. Written permission was obtained from the head of the department from the hospital. Oral consent was obtained from the parents of preschool children.

Conceptual Frame Work

Conceptualization refers to the process of developing and refining abstract. The conceptual frame work is a global idea about concept in relation to specific discipline.

On of the important purpose of theoretical frame work is to communicate clearly and the relationship of various concepts.

The conceptual frame work of the study was derived from –modified Orlando's nursing process theory (1972).

In this model the perception arise from an action which leads to a series steps like thought and feeling which finally bring the necessary reaction or result.

FIVE MAJOR CONCEPTS DESCRIBE THE PHENOMENA

Action

Action is the rational that leads to the perception. Here the researcher perceives the pain of the child through the action of child during painful procedures.

Perception

It is the acceptance of reality. The researcher accept the fact that child is in pain during painful procedures.

Thought

It is an intellectual process of analyzing a problem to find a solution to the problem. Here the researcher things about a solution to pediatric pain.

Feeling

It is the realization process of a solution. Here the researcher find cartoon distraction can be effective to reduce pediatric pain.

Reaction

It is the change achieved. Here the researcher gets the result from children.

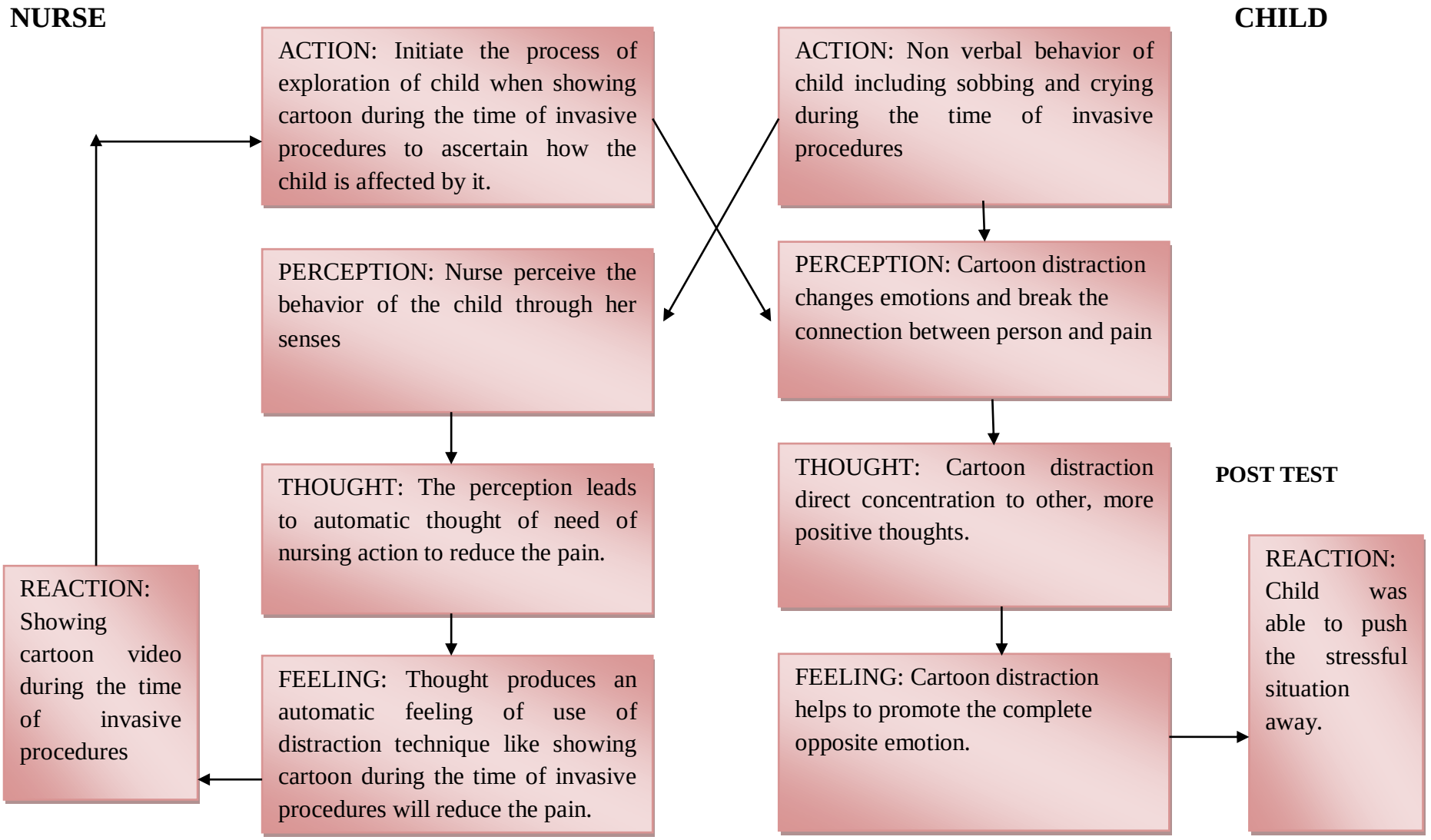

FIGURE 1 : MODIFIED ORLANDO'S NURSING PROCESS THEORY(1972)

CHAPTER II

REVIEW OF LITERATURE

A literature review is an objective, critical summary of published research literature relevant to a topic under consideration for research. Its purpose is to create familiarity with current thinking and research on a particular topic, and may justify future research into a previously overlooked or understudied area.

Review of literature of the present study was arranged in the following headings:

Section A: Studies related to painful procedures among preschool children.

Section B: Studies related to distraction technique.

Section C: Studies related to effect of cartoon.

STUDIES RELATED TO PAINFUL PROCEDURES AMONG PRESCHOOL CHILDREN

M Ozcetin, M Suren, E Karaaslan (2011) conducted a randomized control trial .study to assess the effect of parent's presence on pain tolerance in children during venepuncture.155 children in between 3-6 years were selected to the study. The cases were randomized into two groups: those who were accompanied by a parent (group 1), and those who were accompanied by a hospital staff member (group 2).They used the Wong-Baker FACES Pain Rating Scale to evaluate pain. A p-value <0.05 was considered as statistically significant during the procedure 53 (77.9%) members of group 1 and 58 (86%) members of group 2 obtained Wong-Baker scores higher than 3, but this difference was not statistically significant (p>0.05). As a result,

the study showed that parental presence had a minimal positive effect on pain tolerance

Se na ahn1, joohyun lee (2013) et al conducted a study to assess the effects of a eutectic mixture of topical anesthetics (emla cream) on pain responses of preschoolers during venipuncture. The pain responses were reported by children, nurses, and the children's mothers. The pre- and post- test-designed study, which included a non-equivalent control group, was carried out in a pediatric unit at a university hospital in South Korea. Pain responses during venipuncture were measured by the self-reporting of the children using the faces pain rating scale (FPRS), the procedure behavior checklist (BCL) by nurses, the visual analog scale (VAS) by mothers, in addition to measurements of the children's pulse rate and level of oxygen saturation. Emla cream was effective in decreasing the pain responses of the children as assessed by FPRS, BCL, and VAS scores. However, pulse rate and level of oxygen saturation of the children during venipuncture were not significantly different between the two groups. Emla cream could be a useful option for reducing pain in preschool children during invasive procedures.

Beth christiano, phd, and sally e. Tarbell, phd (1998) conducted a study to investigate the association between preoperative parent and child behaviors and postoperative pain in toddlers and preschoolers. Participants were 74 pediatric patients (59 boys, is girls), scheduled for inguinal hernia or hydrocele Repair, and their parents. Children ranged in age from 12 to 64 months. Child and parent behaviors were assessed 30 minutes prior to surgery using the behavioral Observation scale (bos), a modified version of the dyadic pre stressor interaction scale (melamed fit bush,1985). Postoperative pain was assessed using an observational measure, the toddler-preschooler postoperative Pain scale .The results was postoperative pain was

negatively related to parents' provision of surgery-relevant information during the preoperative observation period.

Marília galvão chaves lemesi et al (2010) conducted a study to investigate the prevalence of dental pain and associated factors in 2–4-year-old children in goiânia .it is a cross-sectional study using home interviews with parents or guardians and Anthropometric measures. The sample consisted of 385 children from 2 to 4 years old. The variables analyzed were: dental pain sometime in their lives, and demographic, socioeconomic and health-related factors (health Condition, diet, nutritional status and behavior). Bivariate analysis and logistic regression were performed, Based on a hierarchical model for risk assessment, considering the sample weights. The result were dental pain prevalence was 9.9% (95%ci 7.4 – 13.1). After adjustment for other variables, children whose mothers had low Education level and those who regularly consumed artificial powder juice containing sugar were more likely to have dental pain (or = 3.03 and 2.15, respectively). The study was concluded that one in ten children had dental pain, and the prevalence was associated with low education level of the mother and the regular Consumption of artificial powder juice.

Sima kaheni 1, mohammad sadegh rezai et al (2016) conducted a study to assess the effect of distraction technique on the pain of dressing change among 3-6 year-old children This randomized controlled trial study, was conducted on 80 hospitalized children with second degree burn in 2015. Playing a video computer game for children during the dressing change procedure was the intervention for the interventional group. Also the intensity of pain was measured by behavioral pain scale for children during dressing. This scale was completed for patients without no intervention in the control group during dressing. The result was Pain intensity mean in the interventional group (2.575 ± 1.807) had significant changes in comparison

with the control group (8.025 ± 1.187) ($p<0.001$). 70% of children in the control group experienced severe pain due to dressing change, but most children in the intervention group (77.5%) had a little pain. According to the results it seems that distraction intervention has a significant positive effect on the pain of dressing change in children.

Anurani a. Augustine and umarani. J (2013) Conducted a study to assess the effect of music therapy in reducing invasive procedural pain In this study quasi experimental post tests only design was adopted. 80 children aged 3-7 Years who underwent invasive procedures were selected using convenience sampling Technique and randomly assigned to experimental (n=40) and control (n=40) groups. Data was collected using flacc behavioral pain assessment scale. The result was the mean pain score of children in experimental group (3.88) was lower than Control group (8.15). The independent 't' value (t=15.448) computed between experimental And control group was statistically significant at $p<0.05$. Children consider, needle Procedure is the most distressing experiences of medical-related care. Music has the Potential to decrease the need for pharmacotherapy. Music can distract the child and Decrease the pain perception.

STUDIES RELATED TO DISTRACTION TECHNIQUE

Das et al (2004) conducted a cross-over randomized controlled trial investigating whether playing a virtual reality game could decrease procedural pain in seven children (aged 5-18years) with acute burn injuries. Pain was assessed with a modified self-report faces pain scale and through interviews with parent/caregivers and nurses. The average self-reported pain score for pharmacological analgesia was 4.1(SD _ 2.9, scale of 0-10), whereas Virtual reality coupled with pharmacological

analgesia yielded an average pain score of 1.3(SD _ 1.8). Children were randomly assigned to no distraction at all, cartoon distraction, Virtual reality distraction presented on a flat screen computer, or the same Virtual reality distraction presented in an HMD. Children who were able to view the Virtual reality in an HMD reported significantly lower affective pain ($t(55)$ _2.45, $P < .02$) and needle pain intensity ($t(55)$ _ 2.22, $P < .03$) relative to children in the other treatment conditions.

Hewida A. Hussein (2015)conducted a study on effect of active and passive distraction on deceasing pain on painful medical procedures among school age. A convenient sample consists of 75 hospitalized school age children undergoing painful procedure (IV medication) was divided into 3 equal groups, (25 children in active distraction group, 25 children in passive distraction group and 25 children in control group). There were four tools used in the study as the following: A structured socio-demographic questionnaire, Numeric Rating Scale (NRS), Wong-Baker FACES Pain Rating Scale and child's pain record. The results of this study revealed that mean age of those school age children in active group was 8.344±.96526 years whereas in passive group was 8.784±1.1671 years while in no distraction group was 8.308±1.133 years. The results of current study explained that mean scores of pain based on the Numeric Pain Scale in active group was 2.98 ± 1.041 and in passive group was 4.44 ± 1.044 whereas in no distraction group was 5.20 ±.81.

A.Bagnasco et al (2012) conducted a study on distraction techniques in children during venepuncture. It consists of the sample included 203 children aged between 2 and 15 years. During venepuncture a video was shown to the children. Pain and parent collaboration were measured using validated scales. Significant differences were observed between the mean score of pain in children undergoing venepuncture with audiovisual distracting technique (2.53 ±1.76) and the mean score obtained in

those undergoing venepuncture without this technique (5.22±2.53). In the group with audio-video distracters, the mean level of cooperation was 0.38 (SD = 0.63) compared to 0.20 (SD = 0.54) in the control group. In relation to the presence of parents, no significant differences were found in the mean pain scores (P=0, 5>0, 05), whereas the mean scores of cooperation were significantly different (P=0.0076<0.05)

Priya Aranha, Umarani J (2013) conducted a study to assess the effectiveness of diversion therapy among infants receiving injection to help them to cope with pain. With experimental research approach quasi experimental post-test only control group design was used. The tools used were baseline Performa and Neonatal Infant Pain Scale. Using purposive sampling technique 60 samples were randomly assigned to control and experimental groups, 30 in each group. Samples in the experimental group were given diversion therapy before during and after the injection. The result showed that infants in the experimental group experienced less pain than that of the control. The study concluded that diversion therapy is effective and can be used by the paediatric health care professionals in their day today clinical practice to help infants cope with their pain.

Kathryn A. Birnie, et al (2014) conducted a study regarding systematically review the evidence (and quality) for distraction and hypnosis for needle related pain and distress in children and adolescents. To explore the effects of distraction characteristics (e.g., adult involvement, type of distracter), child age, and study risk of bias on treatment efficacy. 26 distraction and 7 hypnosis trials were included and self-report, observer-report, and behavioral pain intensity and distress examined. Distraction studies were coded for 4 intervention characteristics, and all studies coded for child age and study risk of bias. Results findings showed strong support for distraction and hypnosis for reducing pain and distress from needle procedures. The

quality of available evidence was low, however. Characteristics of distraction interventions, child age, and study risk of bias showed some influence on treatment efficacy. Study concluded as distraction and hypnosis are efficacious in reducing needle related pain and distress in children. The quality of trials in this area needs to be improved.

Andrea Windich-Biermeier, RN Isabelle Sjoberg, RN, BSN et al 2007) conducted a study on Effects of Distraction on Pain, Fear, and Distress during Venous Port Access and Venepuncture in Children and Adolescents with Cancer. All participants rated their pain and fear, parents rated participant fear, and the nurse rated participant fear and distress at 3 points in time: before, during, and after port access or venepuncture. Results show that self-reported pain and fear were significantly correlated ($P = .01$) within treatment groups but not significantly different between groups. Intervention participants demonstrated significantly less fear ($P < .001$) and distress ($P = .03$) as rated by the nurse and approached significantly less fear ($P = .07$) as rated by the parent. All intervention parents said the needle stick was better because of the distracter. The authors conclude that distraction has the potential to reduce fear and distress during port access and venepuncture.

Mukesh Chandra Sharma1, Theresa Leonilda Mendonca (2013) conducted a study on Effectiveness of Two Distraction Techniques in Altering Behavior Response to Pain among Children (1-3 years) Receiving Immunization at Selected Immunization Clinics in Mangalore. An experimental approach with quasi experimental design was used. The study was conducted at different immunization clinics of Mangalore. The sample comprised of 60 children aged 1-3 years. The sample was selected using purposive sampling technique and randomly assigned to Group I, Group II and Group III .Data was collected using a behavioral observation

scale. Data was analyzed using descriptive and inferential statistics. The result of the study showed that Group II had significant higher behavioral response score than that of group I (t38=2.4897, P<0.05). ANOVA showed the significant difference among behavioral responses score of the three groups (F (2, 57) =6.7086, P < 0.01).The findings of the study support the effectiveness of toy as a distracter compared to music. A toy can be used as a distracter in immunization clinics to alter the behavioral responses while giving immunization.

STUDIES RELATED TO EFFECT OF CARTOON

Priscilla Dixey, MS, FNP-C, Jan Seiler Jo Ann Woodie (2008) conducted study regarding Cartoon Stickers Given After a Hemoglobin Finger Stick Influence Preschoolers' Pain Perception Preschoolers from Head start Centers in a southeastern city were recruited for the study. The age range of participants was between 3 and 5 years. The children were assigned randomly into two groups: those receiving stickers (Group I), and those not receiving a sticker (Group II). Subsequently, each participant's pain level was assessed using the Oucher scale within 1 minute of the finger stick. There was no statistically significant difference in pain scale ratings between the two groups when comparing whether or not a cartoon sticker was given t(.937, df 128, P = .351; 95% confidence interval). This study was clinically significant in that non pharmacological interventions were utilized in an attempt to reduce pain in young children.

Baljith Kaur et al (2014) conducted a quasi - experimental study on children of 4 to 12 years age who were undergoing intravenous injections to determine the effectiveness of "Cartoon Distraction" as a strategy to reduce the pain perception and distress. The study comprised of 30 children selected through purposive sampling

method. In this study the assessment of pain and distress done in morning without cartoon distraction and in evening with cartoon distraction at initiation, at five minutes and at termination of administration of intravenous injection on FACES pain scale and on distress assessment scale respectively on day 1. While on day 2, to understand the diurnal effect of pain and distress, there was assessment of pain and distress in morning with cartoon distraction and in evening without cartoon distraction at initiation, at five minutes and at termination of administration of intravenous injection. The results revealed that there is significantly ($p < 0.005$) less pain and distress in children with cartoon distraction at initiation, at five minutes and at termination of administration of intravenous injection. The findings also revealed that there is no influence of gender on perception of pain but there was an inverse relation of behavior pain response with age of the child. Children who had history of previous hospitalization had an increased perception of pain and distress during the current hospitalization. Pain and distress is also directly proportional to time duration of administration of intravenous injection and number of intravenous injection per day and the presence of caregiver had no role on the same.

F. Guinot Jimeno, M. Mercadé Bellido et al (2014) conducted a study on Effect of audiovisual distraction on children's behavior, anxiety and pain in the dental setting. This non-randomized crossover trial was performed with 34 children aged 6–8 years, who required a minimum of two treatment visits for restorative therapy. During the last visit, the children was shown a cartoon film. There was a significant improvement in the global behavior when children were shown a cartoon film ($P < 0.001$). A significant increase in heart rate was recorded in both visits ($P = 0.0001$) when the anesthetic was injected. A 97% of the sample would like to continue seeing their chosen film during subsequent visits. No statistically significant differences were

found (P > 0.05) between the visits in terms of parental perception of the patient's anxiety, or the patient's self-reported anxiety, pain and heart rate.

Jeena James, Sandhya Ghai, K.L.N. Rao, Nitasha Sharma (2012) conducted a quasi- experimental study on children of 3 to 6 years age who were undergoing venepuncture to see the effectiveness of "Animated Cartoons" as a distraction strategy to reduce the perception of pain. The study comprised of 50 children selected through purposive sampling method. Children who were seriously ill and were visually and audibly handicapped were excluded from the study. During the first venepuncture children were assessed at pre, during and post venepuncture for perception of pain with routine care only and during the second venepuncture with routine care and animated cartoon. The tools used for the study included a baseline Performa, FLACC (Face, Legs, Activity, Cry and Consolability) behavior pain scale. The results revealed that there is significantly (p <0.001) less pain related behavioral responses with use of animated cartoons as a distraction strategy at pre, during and post venepuncture. The findings also revealed that there is no influence of gender on perception of pain but there was an inverse relation of behavior pain response with age of the child. It was concluded that animated cartoon is an effective distraction strategy to reduce pain among the children undergoing venepuncture. Thus animated cartoons can be used for effective handling of behavioral responses in children during invasive procedures.

Shivcharan Singh Gandhar, Jyotsna Deshpande et al (2013) conducted a study to assess the Effectiveness of Cartoon Movies as Distracter on Pain among Children Undergoing Venipuncture This was a quasi experimental study of 60 children (30 in experimental group and 30 in control group) undergoing venipuncture in selected hospitals of Pune city. The FLACC observational pain scale was used to

for pain assessment. Experimental group were given passive distraction in the form of cartoon movie and control group were not during venipuncture. Intervention done 5 minute before initiation of procedure (venipuncture) during procedure and till 5 minutes of completion of procedure. The result of the study is mean pain score in experimental group was lower (4.6) than that of the control group (7.7) with the mean difference of 3.1 which was significant as evident from "t" value of (10) at 0.05 level of significance.

MollyGreco (2013) conducted a study to assess the Effectiveness of an iPad as a Distraction Tool for Children. The purpose of this study was to examine the effectiveness of an iPad as a distraction tool. Ten preschool age children participated in an ice pack procedure three times; once with no distraction, once while watching a cartoon (passive distraction), and once while interacting with an iPad (active distraction). Distraction type was randomly sequenced for each child. Children were timed to determine how long they could tolerate an ice pack on their foot for three trials. Although the results suggested that active and passive distraction techniques helped children tolerate discomfort for a longer amount of time than no distraction, the differences were not statistically significant. Active distraction helped children to tolerate discomfort for the longest amount of time

CHAPTER - III

METHODOLOGY

Research Methodology is the way to systematically solve the research problem. Methodology occupation is key position as far as research documentation is concerned. It may be understood as a science of studying how research is done. It involves the systematic procedure by which the researcher states from the initial identification of the problem to its final conclusion (C.R. Kothari).

This chapter includes the research approach, research design, setting of the study, variables, populations, sample size, sampling technique, sample selection criteria, description of tool, validity and reliability, pilot study, data collection procedure and plan for data analysis.

Research Approach

The research approach used for the study is quantitative approach.

Research Design

The design used in this study was post test only control group design.

Setting of the study

The setting selected by the investigator to conduct the study was Sree Mookambika Medical College Hospital, Kulasekharam, its location is 10 km away from Marthandam. It is a 550 bedded Hospital.

Population

The population under the study refers to all preschool children who came to Sree Mookambika Medical College Hospital.

Sample size

The investigator has selected 40 preschool children between the age group of 3to 5 years

Sampling Technique

The investigator selected 40 samples by using convenient sampling method. The sample was selected based on inclusion and exclusion criteria.

Criteria for sample selection

The sample was selected based on the following inclusion and exclusion criteria.

Inclusion criteria

1. Children of parents who are willing to participate in the study.

2. Pre school children who are in between 3 to 5 years.

3. In patients and outpatients with subcutaneous, intramuscular, intravenous injections, intravenous cannulation and blood sample collection.

Exclusion Criteria

1. Pre school children who are having problems like Mental retardation, Cerebral palsy, Down syndrome.

2. Pre school children who are deaf and dump.

Data Collection Tool

Description of the tool

After extensive review of literature and experts guidance the tool was prepared. The tool consists of 2 sections.

Section A: Demographic variables

Section B= Wong- Baker Faces Pain Rating Scale.

Section A: Demographic variables

This section deals with demographic variables such as Age, Sex, Order of birth, Type of Family, Body Built, Educational Status, Mother's Occupation, Child accompanying with, Previous experience of pain.

Section B:

Wong-Baker Faces Pain Rating Scale is used for assessing pain.

Scoring and Interpretation

It consist of pain scores of 0 to 10 which the subject choosing from the faces showing level of pain.

The scoring was assessed as No pain, Mild, Moderate, severe

0 % - No Pain

1-3 % - Mild

4-6 % - Moderate

7-10 % - Severe

Content validity and Reliability

Content validity of tool was established from 3 experts, 2 experts from the field of nursing personal and one from paediatric medicine doctor (Paediatrician) the necessary suggestions and modification were incorporated in the final preparation of the tool.

Reliability of the tool was identified by test retest method using spearman rank correlation formula and the tool was reliable at 0.6.

Pilot study

To test feasibility in conducting the main study the pilot study was conducted.

The pilot study was conducted at Sree Mookambika Medical college Hospital. Six Preschool children like 3 experiment group and 3 control groups were selected as study sample.

After getting the permission from the Hospital authority oral consent obtained from the parents of the subjects by explaining the objectives and data collection procedure. Pilot study was conducted for a period of 3 days. Wong-Baker Faces Pain Rating Scale was used for collecting the data. Pilot study findings revealed that the study was feasible and the tool was appropriate for the study.

Data Collection Procedure

The pilot study was found to be practicable and feasible to conduct the final study among preschoolers. The final study was conducted in the SreeMookambika Medical College Hospital, Kulasekharam. Before starting the study the investigator obtained permission from the hospital authority for conducting the study. The parents of the subjects were explained about the study and consent was taken.

Data collection period was one month. The study was conducted in SreeMookambika Medical College Hospital, Kulasekharam with 40 samples. . The preschool children who got admitted here and also who came to the outpatient department were conveniently selected and the samples were assigned as experimental group and control group. Cartoon was shown to the experimental group during painful procedures and pain was assessed for both groups with same tool.

Plan for Data Analysis

The collected data is planned to be analyzed using descriptive and inferential statistical analysis.

Sl. no	Data analysis	Method	Remarks
01.	Descriptive statistics	• Mean	Describes demographic variables.
		• Standard deviation	To find out positive square root of means of standard deviation.
02.	Inferential statistics	• T- test	To find out the effectiveness.
		• Chi-square test.	To find out the association between two events.

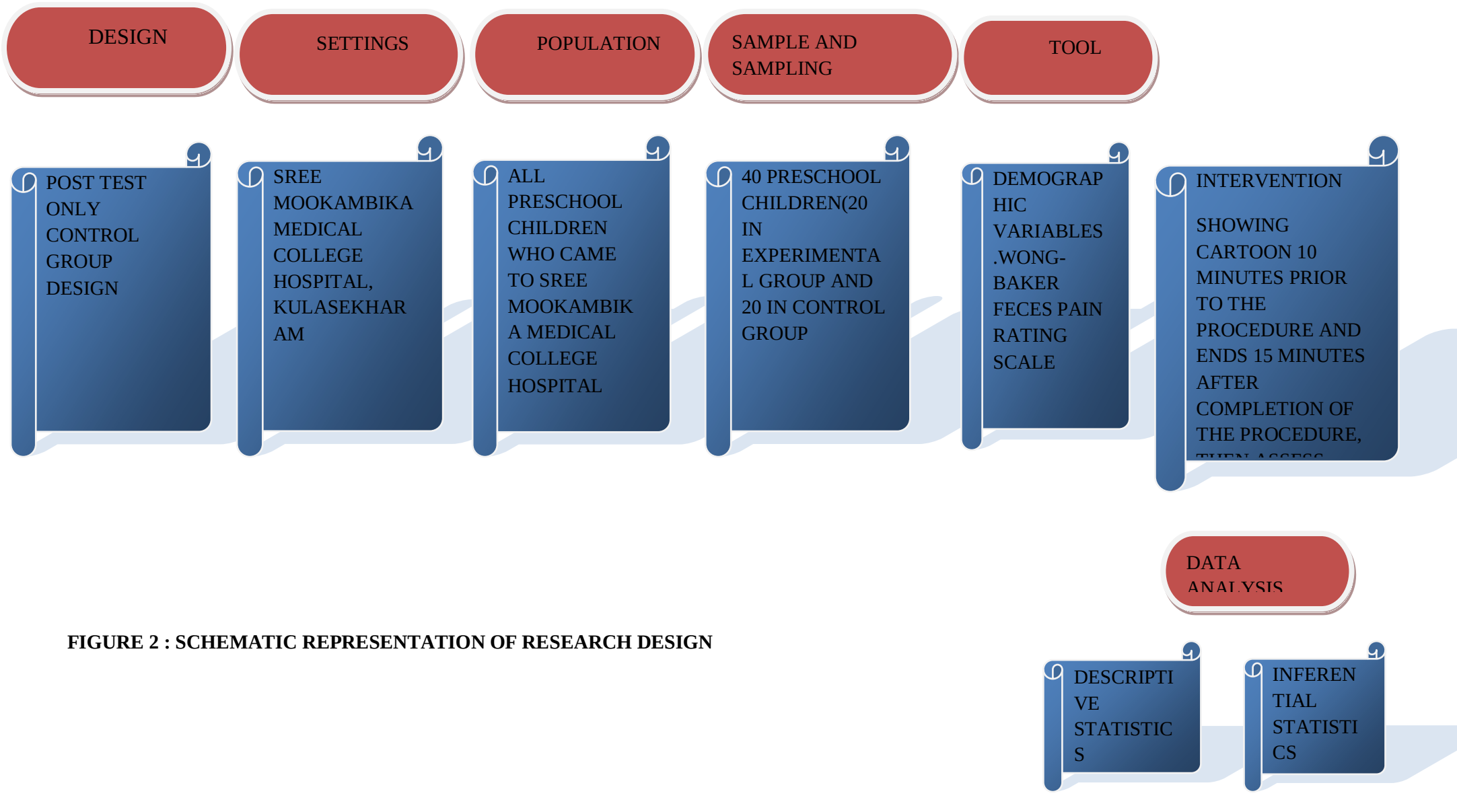

FIGURE 2 : SCHEMATIC REPRESENTATION OF RESEARCH DESIGN

CHAPTER IV

DATA ANALYSIS

The study was conducted to assess the effectiveness of cartoon on pain during painful procedures among preschool children. A quantitative research approach was used for the study. A post test only control group design was adopted. The data obtained were tabulated, analyzed and presented in the tables and figures and interpreted under the following sections based on the objectives and hypotheses of the study. The difference in both experimental and control group was assessed by paired't' test. The association between demographic variables and level of pain was assessed by chi-square test.

The Objectives of the Study

1. To assess the level of pain among preschool children during painful procedures in experiment and control group.
2. To assess the effectiveness of cartoon in reduction of pain among preschool children during painful procedures in experiment and control group.
3. To assess the association between the level of pain among preschool children and selected demographic variables.

The data was tabulated and presented as follows

Section A

This section depicts the demographic variables of children selected for the study.

Section B

This section deals with

- Effectiveness of cartoon in reducing level of pain in experimental group.
- Comparison of mean level of pain between the experimental group and control group.

Section C

This section deals with association between the level of pain and the selected demographic variables.

SECTION A

This section deals with the demographic variables of children selected by the investigator.

Table 1

DISTRIBUTION OF SUBJECTS ACCORDING TO THE SELECTED DEMOGRAPHIC VARIABLES IN EXPERIMENTAL GROUP AND CONTROL GROUP

Frequency and percentage distribution of preschool children according to the selected demographic variables N=40

Demographic variables	Experiment group		Control group	
	F	%	F	%
Age				
3 year	6	30	6	30
4 year	8	40	9	45
5 year	6	30	5	25
Sex :				
Male	10	50	10	50
Female	10	50	10	50
Order of Birth :				
First	8	40	12	60
Second	11	55	7	35
Third and above	1	5	1	5
Type of family:				
Nuclear	18	90	15	75
Joint	2	10	5	25
Extended	0	0	0	0

Table 1 Continues ....

Body built of the subject:				
Thin	9	45	8	40
Moderate	11	55	10	50
Fat	0	0	2	10
Educational status of mother:				
Illiterate	0	0	0	0
Primary school	4	20	3	15
High school	9	45	10	50
Higher secondary and above	7	35	7	35
Mother's occupation				
House wife	10	50	10	50
Daily wages	5	25	5	25
Private employee	4	20	4	20
Government employee	1	5	1	5
Child accompanying with:				
Parents	19	95	14	70
Relatives	1	5	6	30
Orphanages	0	0	0	0
Previous experience of pain:				
Yes	20	100	20	100
No	0	0	0	0
Type of admission:				
In patient	8	40	3	15
Outpatient	12	60	17	85

The above table 1 describes study subjects in number and percentage according to their demographic variables. Table 1 shows that, distribution of subjects according to the age depicts that in experimental group,6 (30%) of them belong to 3 years of age,8 (40%) of them belong to 4 years of age ,6 (30%) of them belong to 5 years of age. In control group 6 (30%) of them belong to 3 years of age, 9 (45%) of them belong to 4 years of age,5 (25%) of them belong to 5 years of age .

Distribution of subjects according to the sex shows that in experimental and control group, 10 (50%) of them belong to male and 10(50%) of them belong to female.

Distribution of subjects according to the order of birth shows that in experimental group,8 (40%) of them belong to first ,11 (55%) of them belong to second ,1 (5%) of them belong to third order. In control group12 (60%) of them belong to first,7(35%) of them belong to second ,1(5%) of them belong to third order.

Distribution of subjects according to the type of family shows that in experimental group, 18 (90%) of them belong to nuclear, 2 (10%) of them belong to joint, 0 (0%) of them belong to extended. In control group15 (75%) of them belong to nuclear, 5(25%) of them belong to joint, 0 (0%) of them belong to extended family.

Distribution of subjects according to the body built of the subjects shows that in experimental group, 9 (45%) of them belong to thin, 11 (55%) of them belong to moderate ,0 (0%) of them belong to fat. In control group8 (40%) of them belong to thin, 10(50%) of them belong to moderate, 2 (10%) of them belong to fat.

Distribution of subjects according to the educational status of mother shows that in experimental group, 0 (0%) of them belong to illiterate, 4 (20%) of them belong to primary school, 9 (45%) of them belong to high school, 7 (35%) of them belongs to higher secondary and above. In control group 0 (0%) of them belong to illiterate, 3(15%) of them belong to primary school, 10(50%) of them belong to high school, 7 (35%) of them belong to higher secondary and above.

Distribution of subjects according to mother's occupation shows that in experimental group, 10 (50%) of them belong to house wife, 5 (25%) of them belong to daily wages, 4 (20%) of them belong to private employee, 1 (5%) of them belongs to government employee. In control group 10 (50%) of them belong to house wife, 5 (25%) of them belong to daily wages, 4 (20%) of them belong to private employee, 1 (5%) of them belongs to government employee.

Distribution of subjects according to child accompanying with shows that in experimental group, 19 (95%) of them accompany with parents, 1 (5%) of them accompany with relatives, 0 (0%) of them accompany with orphanages. In control group14 (70%) of them accompany with parents, 6(30%) of them accompany with relatives, 0 (0%) of them accompany with orphanages.

Distribution of subjects according to previous experience of pain shows that in experimental and control group, all of the, that is 20 (100%) of them have previous experience of pain.

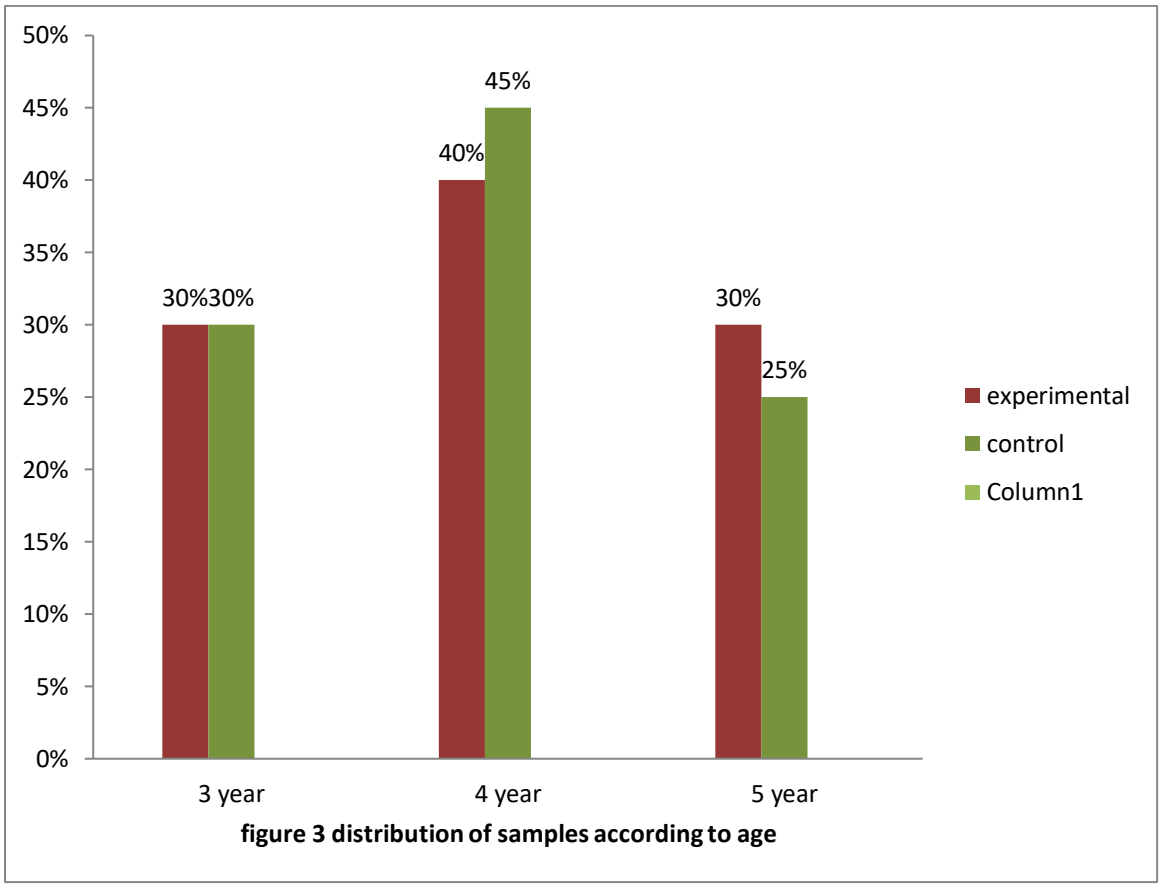

figure 3 distribution of samples according to age

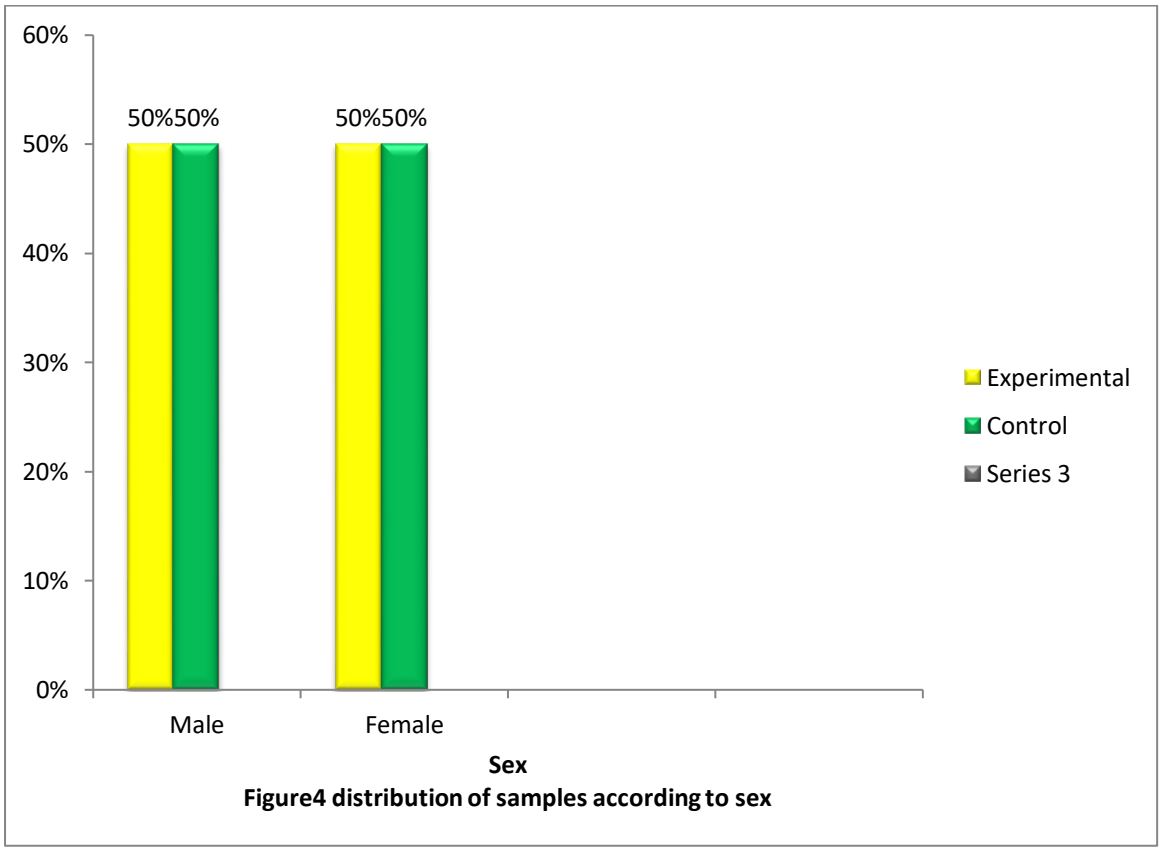

Figure4 distribution of samples according to sex

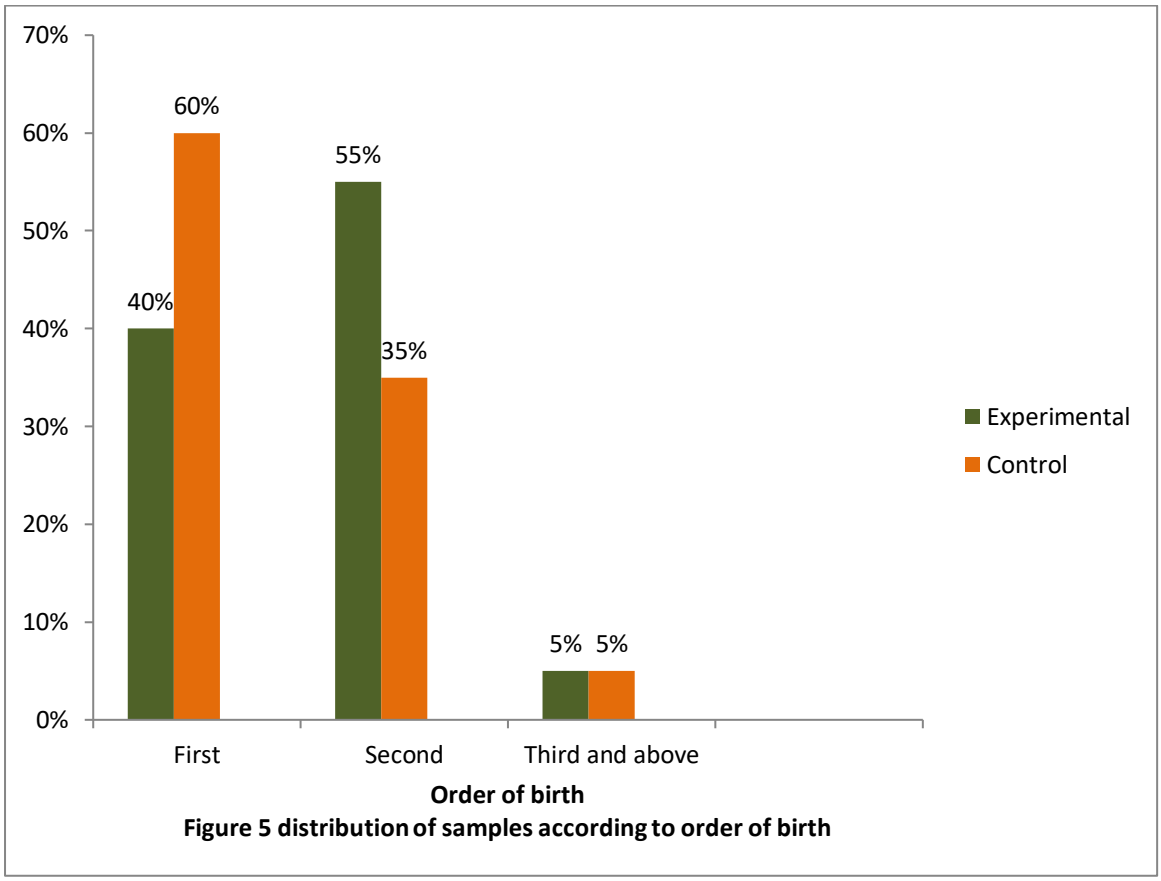

Figure 5 distribution of samples according to order of birth

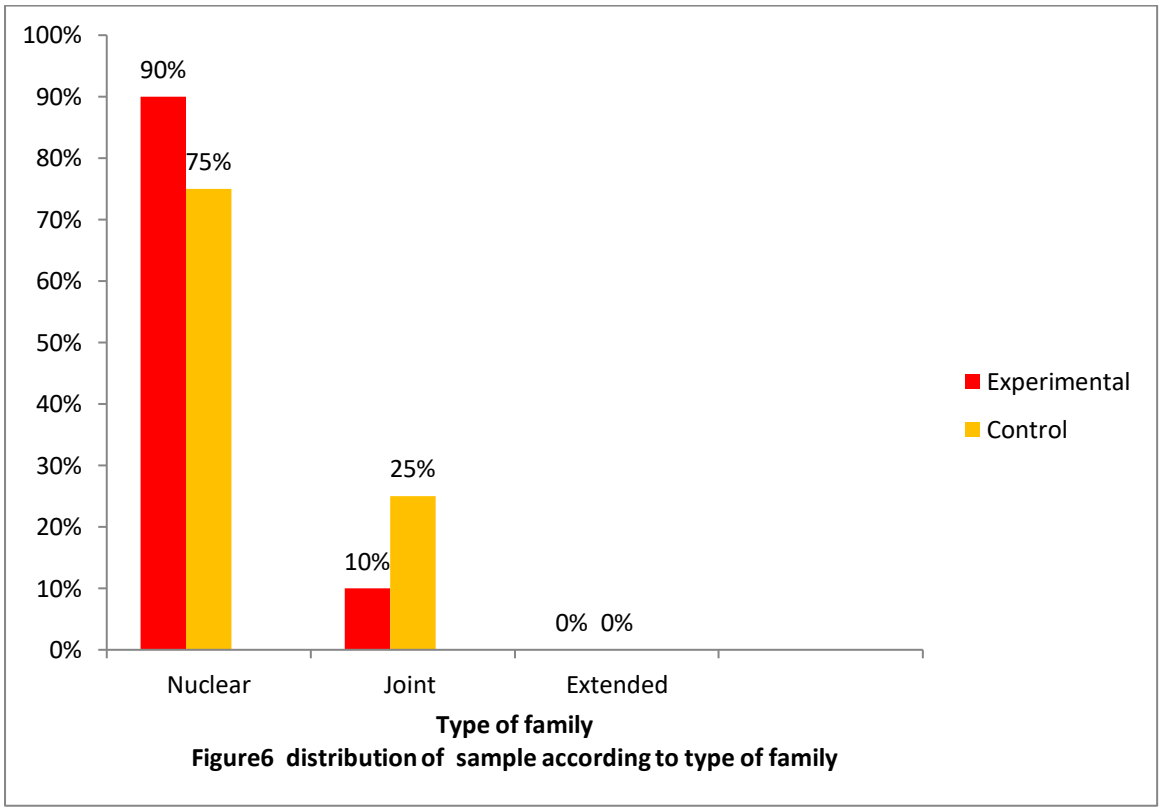

Figure6 distribution of sample according to type of family

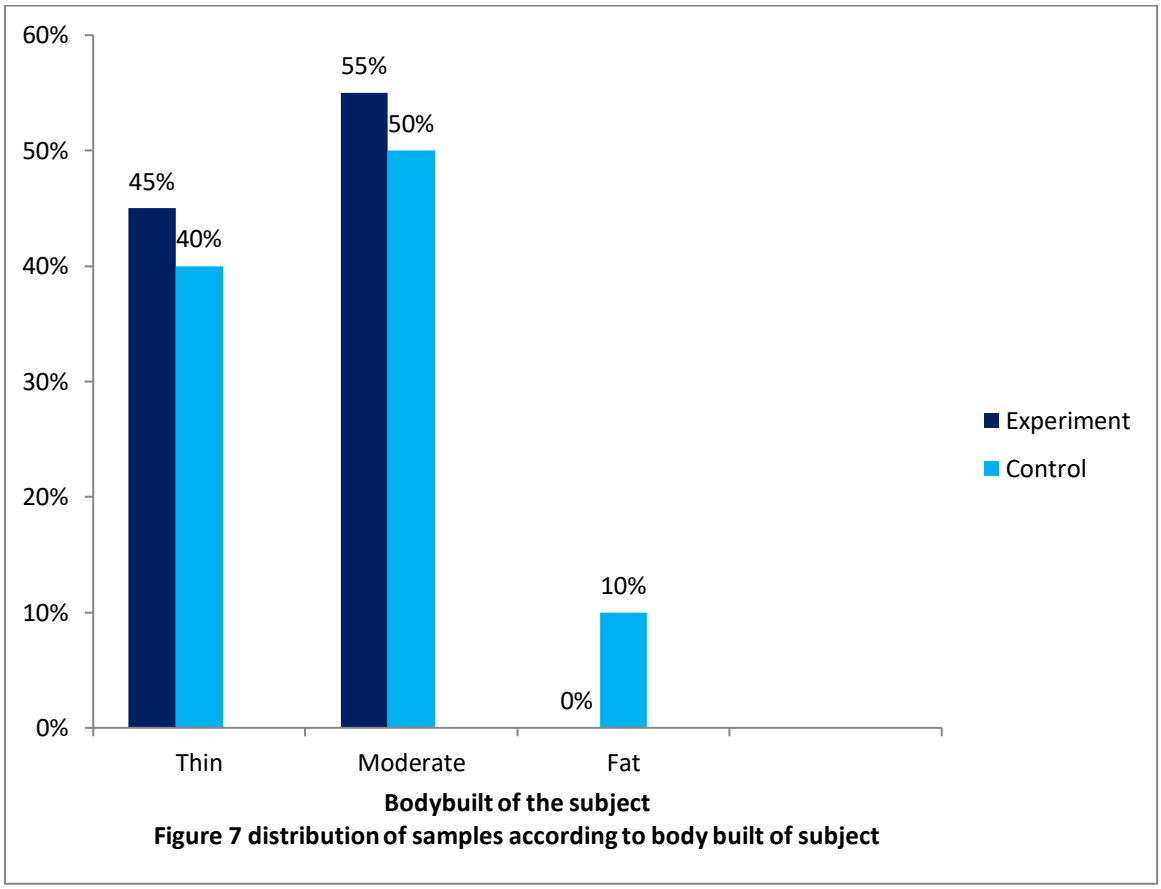

Figure 7 distribution of samples according to body built of subject

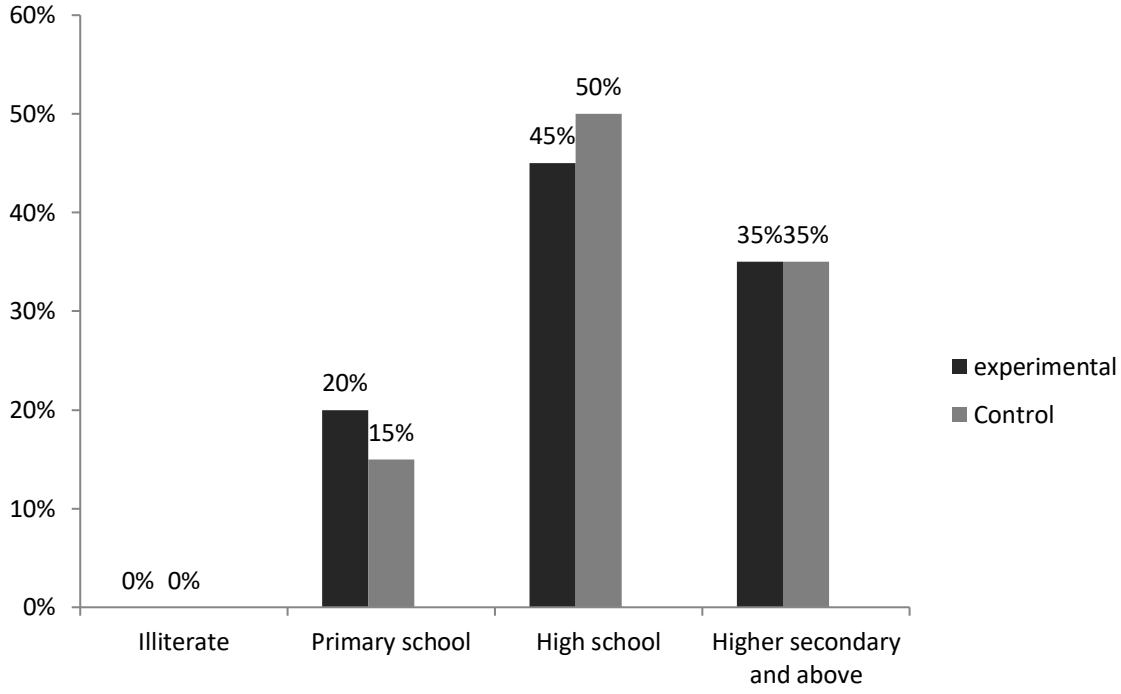

Figure 8 distribution of the sample according to eduational status of the mother

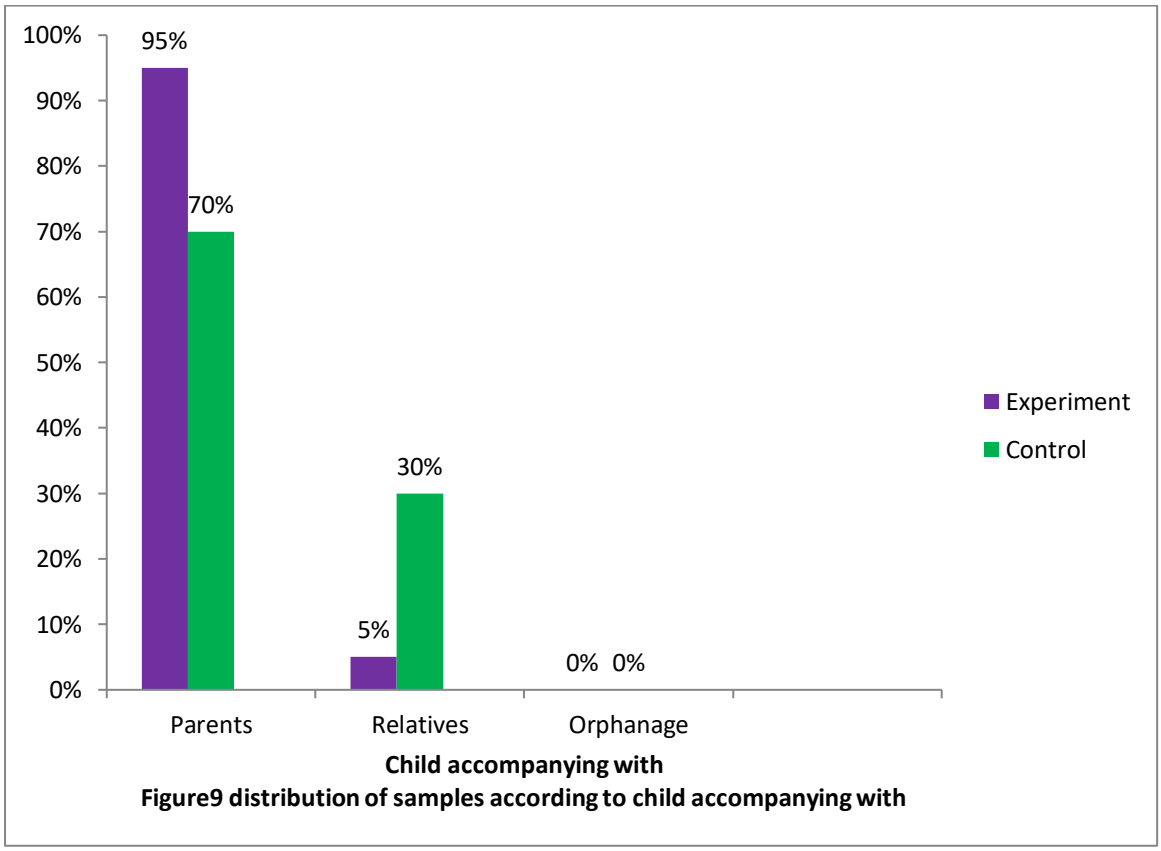

Figure9 distribution of samples according to child accompanying with

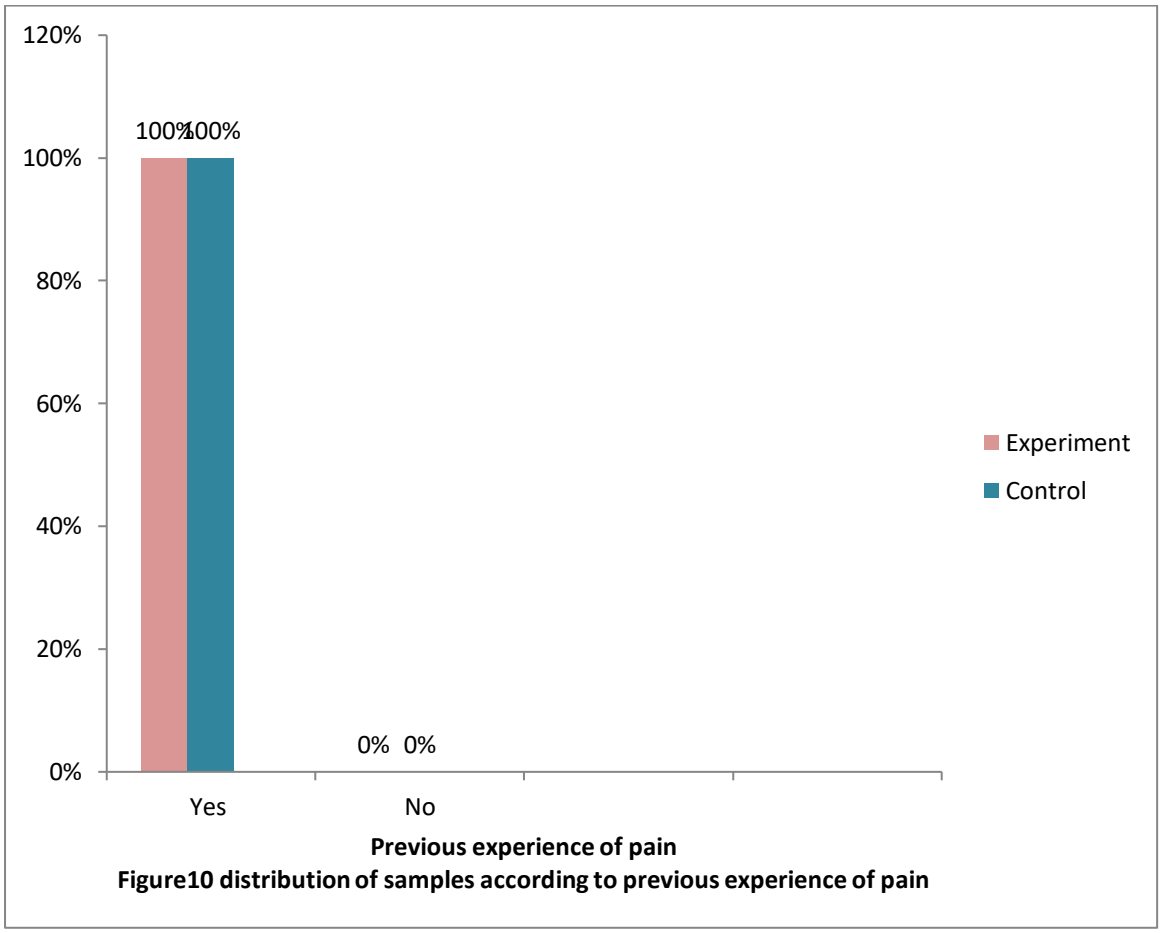

Figure10 distribution of samples according to previous experience of pain

SECTION B

This section deals with the effectiveness of cartoon in reducing level of pain in experiment group.(Table 2) and also the mean reduction in level of pain in the experiment group with control group (Table 3).

Table 3:

EFFECTIVENESS OF CARTOON IN REDUCING LEVEL OF PAIN IN EXPERIMENTAL GROUP

POST TEST						
Experimental Group		Control Group		't'	Df	Table Value
Mean	SD	Mean	SD			
5.45	1.761	7.9	1.447	4.814	38	2.04

The table explains that the difference was statistically significant (4.814).This shows that the experimental group had significantly greater reduction in level of pain compared to control group. So the research hypothesis H_1 being supported.

The mean reduction in level of pain in experimental group and control group presented as bar diagram.

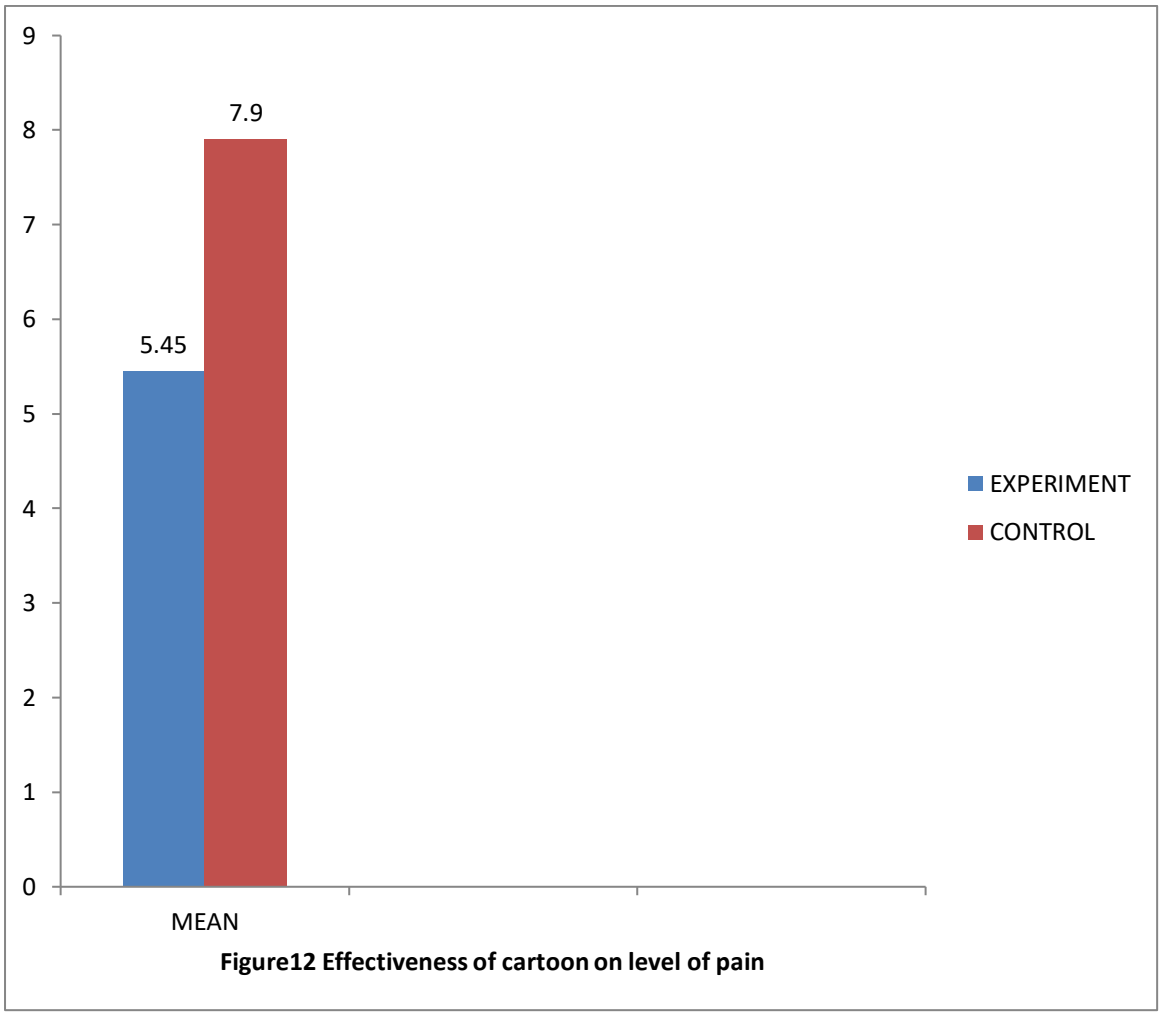

Figure12 Effectiveness of cartoon on level of pain

COMPARISON OF MEAN LEVEL OF PAIN IN EXPERIMENTAL GROUP WITH CONTROL GROUP.

POST TEST				
Experimental Group		Control Group		Table Value
Mean	SD	Mean	SD	
5.45	1.761	7.9	1.447	2.04

The above table 3 shows the comparison of cartoon in reducing the level of pain in experimental group with control group The mean level of pain in experimental group is 5.45 where as the mean level of pain in control group is 7.9 which are higher than experimental group. The mean difference of mean levels of both experimental and control group is 2.45.

SECTION C

This section deals with association between level of pain and the selected demographic variables such as age, sex, order of birth, type of family, body built of subject, education status of mother, occupation of mother, child accompanying with, previous experience of pain, type of admission.

ASSOCIATION BETWEEN THE LEVEL OF PAIN AND SELECTED DEMOGRAPHIC VARIABLES. N=40

Demographic variables	**Association with level of pain**		
	λ^2	df	't' value
1. Age of Subject in year	2.62	6	12.59
(a) 3 year			
(b) 4 Year			
(c) 5 Year			
2. Sex of the Subject	0.48	3	7.82
(a) Male			
(b) Female			
3. Order of birth	6.93	6	12.59
(a) First			
(b) Second			
(c) Third and above			
4. Type of family	12.54	6	12.59
(a) Nuclear			
(b) Joint			
(c) Extended			
5. Body built of the subject	10.13	6	12.59
(a) Thin			
(b) Moderate			
(c) Fat			

6. Educational status of mother	12.49	9	16.92
(a) Illiterate			
(b)Primary School			
(c) High School			
(d) Higher Secondary and above.			
7. Mother's Occupation	21.82*	9	16.92
(a) House wife			
(b) Daily wages			
(c) Private employee			
(d) Government employee			
8. Child accompanying with	1.82	6	12.59
(a) Parents			
(b) Relatives			
(c) Orphanages			
9. Previous experience of pain	2.9	3	7.82
(a) Yes			
(b) No			
10. Type of admission	8.87*	3	7.82
(a) In patient			
(b) Out patient			

The above table describes the association between the level of pain and demographic variables both in experiment and control groups. There is association between the level of pain and demographic variables such as mother's occupation and type of admission. So the research hypothesis (H_2) was accepted.

\CHAPTER V

RESULT AND DISCUSSION

The study findings are discussed with reference to the objectives of the study. The result and discussion of the study is based on the findings obtained by statistical analysis. The major findings of the study are the follows

Characteristics of sample

Table 1 denotes the distribution of the samples according to demographic variables. ,

The distribution of subjects according to the age depicts that in experimental group,6 (30%) of them belong to 3 years of age,8 (40%) of them belong to 4 years of age ,6 (30%) of them belong to 5 years of age. In control group 6 (30%) of them belong to 3 years of age, 9 (45%) of them belong to 4 years of age,5 (25%) of them belong to 5 years of age .

Distribution of subjects according to the sex shows that in experimental and control group, 10 (50%) of them belong to male and 10(50%) of them belong to female.

Distribution of subjects according to the order of birth shows that in experimental group,8 (40%) of them belong to first ,11 (55%) of them belong to second ,1 (5%) of them belong to third order. In control group12 (60%) of them belong to first,7(35%) of them belong to second ,1(5%) of them belong to third order.

Distribution of subjects according to the type of family shows that in experimental group, 18 (90%) of them belong to nuclear, 2 (10%) of them belong to joint, 0 (0%) of them belong to extended. In control group15 (75%) of them belong to nuclear, 5(25%) of them belong to joint, 0 (0%) of them belong to extended family.

Distribution of subjects according to the body built of the subjects shows that in experimental group, 9 (45%) of them belong to thin, 11 (55%) of them belong to moderate ,0 (0%) of them belong to fat. In control group8 (40%) of them belong to thin, 10(50%) of them belong to moderate, 2 (10%) of them belong to fat.

Distribution of subjects according to the educational status of mother shows that in experimental group, 0 (0%) of them belong to illiterate, 4 (20%) of them belong to primary school, 9 (45%) of them belong to high school, 7 (35%) of them belongs to higher secondary and above. In control group 0 (0%) of them belong to illiterate, 3(15%) of them belong to primary school, 10(50%) of them belong to high school, 7 (35%) of them belong to higher secondary and above.

Distribution of subjects according to mother's occupation shows that in experimental group, 10 (50%) of them belong to house wife, 5 (25%) of them belong to daily wages, 4 (20%) of them belong to private employee, 1 (5%) of them belongs to government employee. In control group 10 (50%) of them belong to house wife, 5 (25%) of them belong to daily wages, 4 (20%) of them belong to private employee, 1 (5%) of them belongs to government employee.

Distribution of subjects according to child accompanying with shows that in experimental group, 19 (95%) of them accompany with parents, 1 (5%) of them accompany with relatives, 0 (0%) of them accompany with orphanages. In control group14 (70%) of them accompany with parents, 6(30%) of them accompany with relatives, 0 (0%) of them accompany with orphanages.

Distribution of subjects according to previous experience of pain shows that in experimental and control group, all of the, that is 20 (100%) of them have previous experience of pain.

It is observed that the two groups are comparable to each other for interpreting the effect of cartoon to reduce the level of pain.

The analysis was done based on the objectives set for the study.

Objective of the study was to assess the level of pain among preschool children during painful procedures in experimental and control group

The level of pain was assessed in subjects after painful procedures. The pain level of both groups were compared and found that 5.45+/‑1.7 (SD) in experimental group and 7.9+/-1.4 (SD) in control group. The mean level of pain in experimental group is 5.45 where as the mean level of pain in control group is 7.9 which are higher than experimental group. The mean difference of mean levels of both experimental and control group is 2.45.

To assess the effectiveness of cartoon to reduce the pain among preschool children during painful procedures.

The difference between the pain scores of experimental and control group was statistically significant (t=4.814,p<0.05).This shows that the experimental group had significantly greater reduction in level o The level of pain was assessed in subjects after painful procedures. The pain level of both groups were compared and found that 5.45+/‑1.7 (SD) in experimental group and 7.9+/-1.4 (SD) in control group .It shows the comparison of cartoon in reducing the level of pain in experiment group with control group. The mean level of pain in experimental group is 5.45 where as the mean level of pain in control group is 7.9 which are higher than experimental group. The mean difference of mean levels of both experimental and control group is 2.45.

ft al conducted a study to assess the Effectiveness of Cartoon Movies as Distracter on Pain among Children Undergoing Venipuncture This was a quasi experimental study of 60 children (30 in experimental group and 30 in control group) undergoing venipuncture in selected hospital result of the study is mean pain score in experimental group was lower (4.6) than that of the control group (7.7) with the mean difference of 3.1 which was significant as evident from "t" value of (10) at 0.05 level of significance.

The study finding is also congruent with a quasi - experimental study was undertaken by **Baljith Kaur** et al on children of 4 to 12 years age who were undergoing intravenous injections to determine the effectiveness of "Cartoon Distraction" as a strategy to reduce the pain perception and distress. The study comprised of 30 children selected through purposive sampling method. In this study the assessment of pain and distress done in morning without cartoon distraction and in evening with cartoon distraction at initiation, at five minutes and at termination of administration of intravenous injection on FACES pain scale. The results revealed that there is significantly ($p < 0.005$) less pain and distress in children with cartoon distraction at initiation, at five minutes and at termination of administration of intravenous injection

To assess the association between the level of pain among preschool children and selected demographic variables

There is association between the level of pain and demographic variables such as mother's occupation and type of admission. So the research hypothesis (H_2) was accepted.

CHAPTER IV

SUMMARAY, CONCLUSION, NURSING IMPLICATION, LIMITATION AND RECOMMENDATION

Summary

The study was undertaken to assess the effectiveness of cartoon on pain during painful procedures among preschool in children in a selected hospital, Kanyakumari district.

Objectives of the study

1. To assess the level of pain among preschool children during painful procedures in experiment and control group.

2.To assess the effectiveness of cartoon in reduction of pain among preschool children during painful procedures in experiment and control group.

3.To assess the association between the level of pain among preschool children and selected demographic variables.

Hypotheses:

H_1

There is a significant difference in pain during painful procedures among preschool children in experimental group.

H_2

There is a significant association between the levels of pain during painful procedure among preschool children with selected demographic variables

The investigator used a quantitative research approach with post test only control design. The researches have adopted nursing process theory (orlando's) as conceptual frame work. A pilot study was conducted to determine the practicability and feasibility of the study. Results were proved that the study was feasible and practicable.

The study was done on 40 children's with invasive procedures by convenient sampling technique, among them 20 subjects were allotted in experimental group and 20 in control group. In this study independent variable was cartoon and dependent variable was level of pain.

The tool used for the study was wong Bakers faces pain rating scale. The preschool children who got admitted and who came to the outpatient department were conveniently selected and the samples were assigned as experimental group and control group. Cartoon was shown to the experimental group during painful procedures and pain was assessed for both groups with same tool. The collected data were analyzed based on descriptive and inferential satisfies according to the above mentioned objectives.

The study identified that there was a significant reduction in level of pain among experimental group than control group. The't' value for the effectiveness of cartoon is 4.814($P<0.05$) which is significant.

Study findings

The study revealed that there was a significantly high reduction in level of pain among experimental group with mean pain score was 5.45 $\pm$1.7(SD) where as mean pain score among control group was 7.9$\pm$1.4 (SD) with mean difference of

2.45. The ‘t’ value for assessing the effectiveness of cartoon is 4.814, which is significance at the level of P<0/05.

In this study there is an association was found between the level of pain and selected demographic variable such as mother‘s occupation and no association with age, sex, orders of birth, type of family, body built of subject, educational status of mother, child accompanies with, previous experience of pain and type of admission.

Conclusion

The conclusion drawn from the findings of the study are as follows;

i) Cartoon found to be an effective nursing intervention in reducing the level of pain among preschool children with invasive procedure.

ii) The findings of the study enlighten the fact that cartoon can be used as an cost effective nursing intervention to reduce level of pain among preschool children with invasive procedures.

Nursing Implications

Pain is a complex, multidimensional and subjective experience that consists of physiological, sensory, emotional, cognitive and behavioural components pain in children with acute and chronic diseases is a major public health problem that has been increasing over the last 20 years. Medical procedures are among the most feared of all childhood experience of the 12 billion injections given annually; approximately 5% of those injections are childhood vaccinations. The data summary for 1992 to 2004 from the American Pain society reveals 70% of hospitalized children reported pain, almost 20% reported moderate pain and 10% reported extremely severe pain.

Effective distracters should have the capacity for refocusing the child’s attention from the unpleasant details of the medical procedure to an enjoyable,

engaging task of the distraction methods used during preschool age, audiovisual distraction is the most effective present study proves the effect of cartoon in reducing the level of pain. Therefore the finding of the study has considerable implication on nursing administration, nursing practice and nursing research.

Implications to nursing Administration

i) Nurse administrator can use cartoon distraction as an intervention to reduce the level of pain during painful procedure to among preschool children.
ii) Nurse administrator should encourage the student and staff members to actively participate by introducing the use of cartoons to reduce the level of pain during painful procedures among preschool children.
iii) The nurse administrator can help in getting funds from higher authorities for conducting seminars, workshop and influences regarding importance of reducing the level of pain during painful procedures among preschool children to improve the experience of hospital stay.
iv) Nurse administrator should help the organization to adopt evidence based nursing practices as policy and integrate it at all levels.
v) Nurse administrator should promote the acceptance of changes.
vi) Nurse administrator should organize and implement journal clubs in which nurses review and discuss system8atic reviews, evidence based protocols and original studies.

Implications of nursing Education.

i) Nurse educator can encourage the student nurses to implement cartoon to reduce the level of pain during painful procedures among preschool children.

ii) This study can motivate student nurses to explore new distraction methods for effective reduction of level of pain.

iii) This research report can be kept in library for reference of nursing personal and other health care professionals.

iv) The results of the study encourage the nurse educator to conduct IN-service education program on distraction technique in reducing the level of pain during painful procedures among preschool children.

Implications to nursing practice

Ideally professionally accountable nurses should base many of the nursing intervention as possible on research findings.

i) The study findings can assist nurses in making more informed decisions and in faking actions that have a solid research based rationale.

ii) Showing cartoon during painful procedure is safe and better modality which has no side effects.

iii) It is one of the cost effective nursing intervention that can replace pharmacological therapy.

iv) Research can fruitfully be used by nurses in planning care be integrating nursing intervention (distraction technique) that are beneficial for preschool Children with painful procedures.

Implications to Nursing Research

The research implication of the study lies in the scope for expanding the quality of nursing service. In this era of evidence based practice, publication of these studies will take nursing to a new horizon.

i. Nurse researches can do studies related to cartoons on preschool children in reducing pain during painful procedures.

ii. Nurse researches can do studies related to other beneficial effect of distraction technique.

iii. A comparative study can be done to determine the effectiveness of distraction techniques with the other alternative therapies.

iv. Similar study can be conducted on a large sample. So it could be generalized.

Limitation

i. The sample size of patients for the experimental and control group was only 29 hence generalization not possible.

ii. Extraneous variables were controlled to some extent only.

Recommendations

i. The study may be replicated with randomization in selection of a larger sample.

ii. Nurse researches can do studies related to cartoon distraction in reducing the level of hospital anxiety.

iii. Nurse researches can do studies comparing the immediate and long term effects of cartoon distraction in reducing the level of pain.

iv. Cartoon distraction can be administrated to reduce anxiety and improve experience of hospital stay.

v. Studies can be done of determine the other benefits of cartoon distraction among children

vi. A study can be conducted by including more numbers of samples.

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2. URL http://www.aphon.org/files/public.

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APPENDIX - A

FORMAL LETTER

ETHICAL CLEARENCE CERTIFICATE

SREE MOOKAMBIKA COLLEGE OF NURSING

(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161
Phone : 04651 - 280743, 280866, 280742, 280745

Date :.....
Lr. No 16-08-2016

ETHICAL COMMITTEE CLEARANCE

To

Ms. Sajina,

I YR .M.Sc (N),

Sree Mookambika College of Nursing,

Kulasekharam.

Ref: Research Topic: "A Study to assess the effectiveness of Cartoon on pain during painful procedures among preschool children in a selected hospital at Kanyakumari District ".

Sub: Approval of the above reference study .

Dear Sajina,

Ethics committee of Sree Mookambika College of Nursing, Kulasekharam reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study in the meeting held on 16-08-2016.

The following ethical committee Members were present at the meeting held on 16-08-2016.

NAME	PROFESSION	POSITION IN THE COMMITTEE
Prof. Mrs. Santhi Letha	Nursing	Chair Person
Dr. Kani Raj Peter	Medical	Basic Medical Scientist
Dr. T.C. Suguna	Nursing	Clinician
Adv. Mohanan	Legal	Legal Expert
Prof. Mrs.Ajitha Retnam	Nursing	Member secretary
Dr.P. Selva Raj	Management	Philosopher
Mr. Natarajan	Social	Medical Social Worker
Mrs. Latha	Lay Person	Community Person

After due ethical and scientific consideration, the ethics committee has approved the above presentation submitted by you.

Regards,

PRINCIPAL
Sree Mookambika College of Nursing
Kulasekharam-629 161

Mrs. Santhi Letha, PHD (N)
Ethics Committee Chairperson,
Sree Mookambika College of Nursing,
V.P.M. Complex, Padanilam, Kulasekharam.

Date : 16-08-2016
Place :Kulasekharam

APPENDIX - B

LIST OF EXPERTS FOR TOOL VALIDATION

1. Prof. Shanthi Latha M.Sc (N), MA, PhD (N),

Principal,

H.O.D of Obstetrical and Gynecology Nursing,

SreeMookambika College of Nursing, Kulasekharam.

2. Mrs. Dali Christabel, M.sc (N),

H.O.D of Child Health Nursing,

SreeMookambika College of Nursing, Kulasekharam.

MEDICAL EXPERT

3. Dr.Elizabeth.K.E, M.D, DCH, Ph.D,

Professor, Department Of Pediatrics

Sree Mookambika Institute Of Medical Sciences Kulasekharam.

APPENDIX - C

DATA COLLECTION TOOL

SECTION- A

DEMOGRAPHIC VARIABLES

1. Name :

2. Age of Subject in year

(a) 3 year

(b) 4 Year

(c) 5 Year

3. Sex of the Subject

(a) Male

(b) Female

4. Order of birth

(a) First

(b) Second

(c) Third and above

5. Type of family

(a) Nuclear

(b) Joint

(c) Extended

6. Body built of the subject

(a) Thin

(b) Moderate

(c) fat

7. Educational status of mother

(a) Illiterate

(b)Primary School

(c) High School

(d) Higher Secondary and above.

8. Mother's Occupation

(a) House wife

(b) Daily wages

(c) Private employee

(d) Government employee

9. Child accompanying with

(a) Parents

(b) Relatives

(c) Orphanages

10. Previous experience of pain

(a) Yes

(b) No

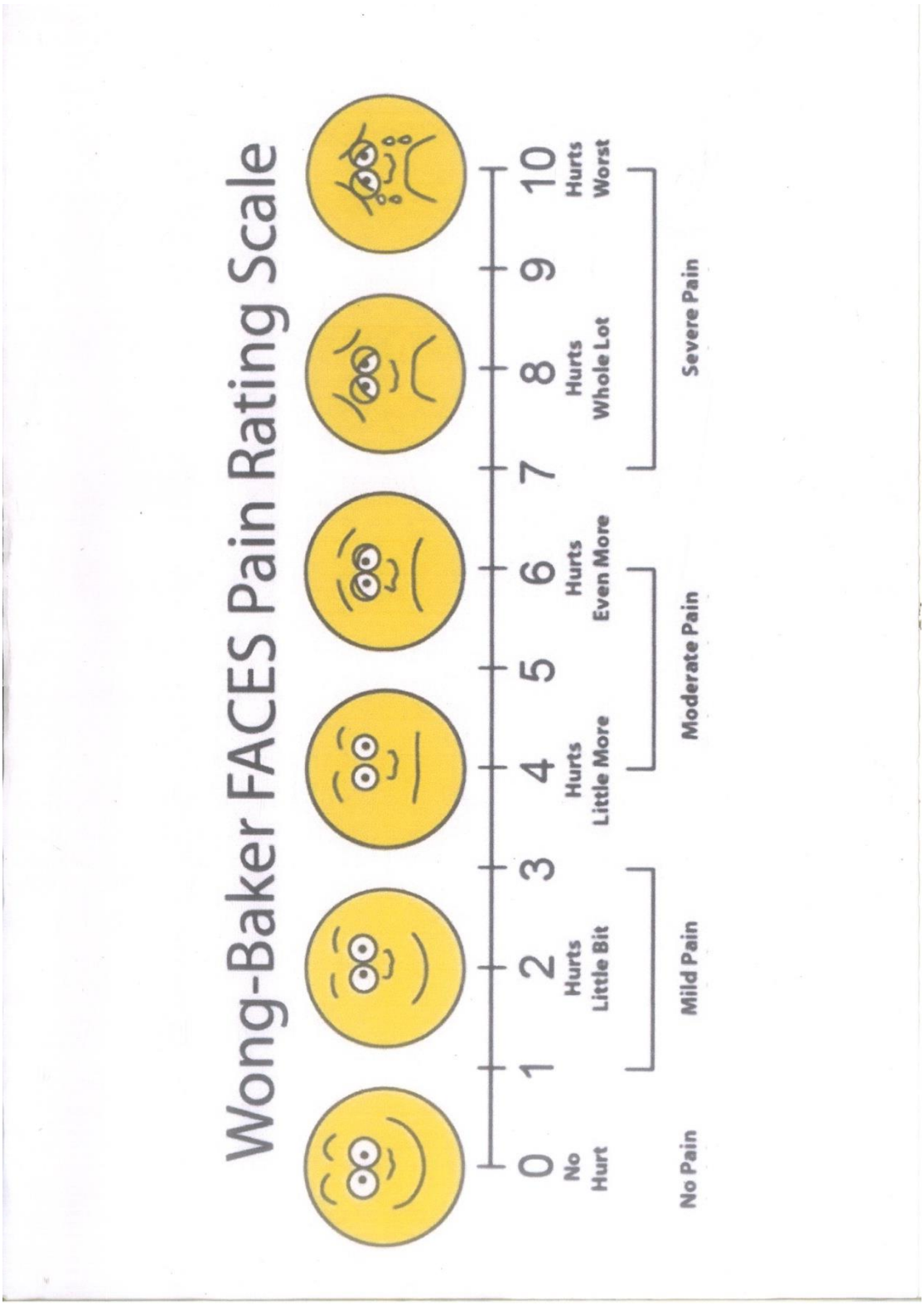
11. Type of admission

(a) In patient

(b) Out patient

SECTION - B

WONG - BAKER FACES PAIN RATING SCALE



APPENDIX - D

EVALUATION CHECK LIST

Item no	Relevant	Need modification	Not relevant	Remarks
1				
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